NOTES ON CERTAIN HUMAN CRANIA IN THE QUEENSLAND MUSEUM.

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(Plates I to V.)

Although no special attention has been given in the past to the collection of aboriginal and other crania in the Queensland Museum, a considerable number of specimens have been acquired. No opportunity of securing additional material is now being lost, and it is hoped that the collection will be largely augmented as time goes on.

During the re-registration of our crania, each has been carefully examined for unusual features, and certain measurements, mainly those involving cephalic and vertical indices and the cubic capacities, have been tabulated. Some of the specimens are of such interest that it is desirable to record a few notes regarding them with the illustrations now published. Later on, perhaps with the assistance of other workers, it is hoped that our series will be dealt with in the adequate way that Professor R. J. A. Berry and Dr. A. W. D. Robertson have treated Australian and Tasmanian aboriginal skulls, descriptions being supplemented by dioptrographic tracings in various normæ.

A male aboriginal cranium (Q.E. 16/1157), from an unknown locality—unfortunately—illustrates a palate with approximately parallel sides, recalling those of the anthropoid apes (Plate I). This characteristic has, of course, been previously noted for certain Australian and Tasmanian crania, but in this specimen it is present to a surprising degree. The palato-maxillary region is dolichuranic; the incisors are in the one straight line, and the molar series are almost parallel. The length from the anterior alveolar border between the median incisors to the extremity of the posterior nasal spine (which is decidedly long) is 70 mm. On each side the maxilla extends 11 mm. beyond the alveolus of the third molar. The breadth of the palate is 37 mm. between the second premolars, and this only increases to 40·5 mm. between the third molars. The combined length of the molars and premolars is 49·5 mm. on the right and 48 on the left. The masticatory area is thus above the average. The palate is unusually deep anteriorly, the sides near the first molar being 20 mm. The external pterygoid plate is considerably extended, and on each side there are traces of ossifications between it and processes from the border of the foramen spinosum. For an aboriginal the mastoid processes are well developed.

Although the dental arcade is of unusual size, the area in front of the third molars lies within the dimensions of the cast of the Talgai cranium, described by Dr. S. A. Smith.

The cranium has a maximum length of 191 mm., a parietal breadth of 128, and the basi-bregmatic height is 137. The specimen is markedly prognathous. The basion-nasion diameter is 102 and the basion-prosthion 107, giving a gnathic index of 104·9. The distance from the bregma to the prosthion is no less than 216 mm. There is a fronto-squamosal articulation on the right side.

Plates II and III illustrate a male skull (Q.E. 16/858) discovered in the sand-dunes at Pialba, Queensland, the outstanding features of which are the asymmetrical condition of the foramen magnum and the breadth of the first upper molars. Klaatsch states: "The original power of natural regeneration, not yet disturbed by the fortunes of civilisation, renders intelligible the otherwise almost incredible, recuperative powers of cranial traumatisms."[1] He also quotes an example of an aboriginal at the Yarrabah Station with a scar in the region of the vertex so deep that a finger could be inserted in it, and yet he lived with no disturbance of health or of mental processes. Although we have no knowledge of the condition in life of the aboriginal represented by the skull illustrated, yet it is evident that he lived for years with the foramen magnum in this abnormal condition, probably with associated partial degeneration of the spinal column—apparently the result of osteo-arthritis.

The right condyle is enlarged posteriorly and is produced laterally almost to the sagittal plane. The articular surface is somewhat irregular and is slightly cancellous. Anteriorly it somewhat overhangs the hypoglossal canal, which in comparison with its fellow is restricted. The lateral portions of the occipital bone are unusually rugose, and the condyloid canal has three external openings.

The labio-lingual surface of the upper dental arch is remarkably oblique, the outer or labial facies being much more worn than the inner. Unfortunately, the incisors and the right canine have been lost *post mortem*. Evidently the mandible had a transverse movement through a wide arc. The crowns of all the teeth have been worn away by mutual attrition. The excess in width of the upper dental arcade over the lower in the molar region of Australian aborigines was noted by Turner,[2] who found a maximum difference of 8 mm. and a mean of 4 mm. in his series. In the abnormal specimen under present consideration, the width of the upper arcade at the first molar is no less than 64 mm. The roots of the molars appear externally on each side of the maxillæ, and the width here reaches 71 mm. These roots are plainly visible on Plate III. The occlusal surface of these remarkable first molars is 16 mm. wide on the left and 15 on the right. The width of the lower arcade at the first molars is 55 mm.

This skull has a maximum length of 185 mm.; the parietal breadth is 128, and the basi-bregmatic height is 132.

A microcephalic cranium (Q.E. 16/999), bisected in the sagittal plane, is the subject of Plate IV, fig. 1. The cubic capacity is only 980, as ascertained

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[1] Klaatsch, Rep. Path. Lab. Lun. Dep. N.S.W., i, pt. 3, p. 152, 1908.

[2] Turner, Journ. Anat. & Phys., xxv, 1891, p. 461.

ABORIGINAL CRANIUM, Q. E. 858.